IN THE CLAIMS

1. (Previously Presented) An optical conduit for illuminating a surface, comprising:

a body formed from optically transmissive material, having:

an input end for light input;

an output end for light output; and

a curved surface that totally and internally reflects light from the input end towards the output end;

a light source embedded at the input end of the body, such that light is channeled from the input end through the body and emitted out the output end; and

a reflector cup embedded at the input end of the body and surrounding the light source, the reflector cup configured to redirect light from the light source towards the output end of the body.

2. (Cancel)

3. (Previously Presented) The optical conduit as in claim 1, wherein the curved surface of the body is a paraboloid.

4. (Previously Presented) The optical conduit as in claim 1, wherein the body is made up of sections of curved surfaces fitting different equations.

5. (Previously Presented) The optical conduit as in claim 1, wherein the light source is a light-emitting diode.

6. (Previously Presented) The optical conduit as in claim 1, wherein the body has a gradual bend so that the output end is at an angle to the input end, wherein the angle is at most 90°.

7. (Previously Presented) The optical conduit as in claim 1, wherein the optically transmissive material is chosen from acrylic, polycarbonate, and optical grade plastic.

8. (Previously Presented) An optical mouse, comprising:

a housing;

an image sensor within the housing for capturing images of a surface;

an optical conduit made from optically transmissive material, channeling light from the light source onto the surface, having:

an input end for light input;

an output end for light output; and

a curved interior surface that totally and internally reflects light from the input ends towards the ouput end;

a light source embedded within the input end of the optical conduit;

a reflector cup embedded within the input end of the optical conduit and surrounding the light source, the reflector cup configured to redirect light from the light source towards the output end of the optical conduit; and

a lens to focus light reflecting off of the surface onto the image sensor.

9. (Cancel)

10. (Cancel)

11. (Cancel)

12. (Previously Presented) The optical mouse as in claim 8, wherein the curved surface of the body is a paraboloid.

13. (Previously Presented) An optical mouse, comprising:

a housing;

an image sensor within the housing for capturing images of a surface;

an optical conduit within the housing made from optically transmissive material, the optical conduit having:

an input end for light input;

an output end for light output; and

an interior surface that totally and internally reflects light from the input ends towards the output end;

a light source embedded within the input end of the optical conduit;

a reflector cup embedded within the input end of the optical conduit and surrounding the light source, the reflector cup configured to redirect light from the light source towards the output end of the optical conduit; and

a lens within the housing to focus light reflecting off of the surface onto the image sensor.

14. (Cancel)